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THE USE OF HEAT AND COLD APPLIED TO THE SYMPATHETIC NERVOUS SYSTEM.

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[Communicated for the Boston Medical and Surgical Journal.]

In No. 25 of Vol. LXIX. of this JOURNAL, a paper on Diphtheritis was issued under my name. Since its publication numerous inquiries have reached me respecting the theory that I propose in that article, which it may not be improper to answer at this time. Before I proceed to its discussion, however, I will state, in answer to other inquiries—that I do not apply the ice or the cold dressing in diphtheritis merely "to the inflamed tissue" or "to the swelling in the laryngeal region" that usually accompanies the disease, but invariably to that portion of the cervical region, beneath which is situated the superior cervical ganglia of the sympathetic nervous system, allowing it to extend backwards to the spinous processes of the vertebræ. In this respect my treatment differs from any previously proposed. I would also state that I consider the application of the hot dressing to the site of the ganglia of the sympathetic system in the spinal region, and to the spine itself below the shoulders, secondary in importance to the refrigerant dressing applied in the cervical region, yet no severe case can be treated successfully without it; that I have found the use of iron in combination with strychnine not absolutely necessary to the recovery of the patient, but to hasten convalescence, and to prevent in a great measure the occurrence of those symptoms of debility of the motor portions of the cerebrospinal nervous system that so frequently accompany and follow severe cases of diphtheritic disease; that I place no reliance "on gargles" or "internal applications to the throat, astringent or stimulant," "as radical means of cure";—yet when the disease is excessively putrid in type chlorinated washes may be used, in my opinion, with advantage—as such, the chlorate of potash and the muriate of ammonia I prefer. The alterative effect produced by the

Vol. Lxx.-No. 12

internal administration of the muriate of ammonia in the initial stage of the disease, I believe to be in some cases highly beneficial. As will be seen in the following portion of this paper, the theory that I have advanced respecting diphtheritic disease was not "extemporized to suit a certain system of practice," but is a "specimen brick" of a general theory from which a system of practice naturally arises that I have adopted for the past four years, in many instances with the happiest results. I "continue to apply the same treatment in diphtheritic disease that I advise," even in the most malignant cases, with unvarying success. I now propose to discuss briefly the importance of the sympathetic nervous system as a dominant issue in the animal body, the important part its centres play in inflammatory processes, and to give an outline, at least, of a general theory and a system of practice founded thereupon, that I have adopted in

many instances with the most flattering success.

The sympathetic nervous system presents to the student a field of inquiry that is rich in physiological and therapeutical interest. Its importance as a dominant tissue in the animal structure to which it belongs cannot be over estimated. Its functions controlling those of the organic glandular and circulatory systems, are manifestly second to none in the animal body. It is the fountain and channel of organic life. It is the agent that prepares from the blood in the wonderful laboratories of the secretory organs those fluids that are necessary in the various processes of the animal economy. It is the indirect force that reduces the aliment to primitive elements, and the probable one that diverts into the blood those that are requisite and assimilable, and the direct one that rolls this fluid in rythmical currents through the arterial channels that permeate the animal tissue. The cerebro-spinal nervous system through intellection, locomotion and muscular adaptation, provides the aliment, while the sympathetic is probably that which fabricates out of its appropriate elements the various tissues that enter into the composition of the animal body.*

^{*} In this view taken of the sympathetic nervous system, it is considered indirectly, in part, the sole agent, from which are derived the organic forces that supply the body. That the sensitive nerves of the cerebro-spinal system have an office, and an important one, in the sensitive nerves of the cerebro-spinal system have an office, and an important one, in the organic processes of nutrition and secretion, cannot be denied. The experiments, however, of Magendie and Longet, showing that destructive disease of the eye occurs much more quickly after the division of the trigeninal nerve in front of the Casserian ganglion, where it is joined by the sympathetic fibres which pass with it to the eye, than when the division is made between the ganglion and brain, seem to prove conclusively that the influence of the sympathetic is much greater than that of the sensitive nerves. As the sole agent of distribution, not of elaboration, the sympathetic centres are considered the fountain of secretory and nutritive viality. On this point the opinions of Kirkes and Paget seem to me to be the best fortified and the most conclusive. They remark, in their Manual of Physiology, page 372–47 Probably, therefore, the safest view of the question is to regard all the processes of organic life in man as liable to the combined influences of the crebro-spinal and the sympathetic systems; to consider that those influences may be so combined as that the sympathetic evens and ganglia may be in man, as in the lower animals, the parts through which the ordinary and constant influence of the nervous force is exercised on the organic processes; while the cerebro-spinal nervous centres and their ganglia are the parts from which the proper sympathetic ganglia derive supplies of nervous force, and from which, more often and more regularly than in the lower animals, the processes of the organic and the animal life are made to work in connection and mutual adaptation."

From this stand-point, and this alone, can be appreciated the importance of the functions of the sympathetic nervous system to the

health and welfare of the animal body.

It should, however, be borne in mind that the nervous tissue is the only seat in the animal body of actual force, that all the organs and apparatuses of which it is composed are only passive instruments or agents for its awakening, life-giving power. As the student investigates the processes of life, as exhibited in the animal body, from the obscurity and doubt that overshadow some of the functions of the nervous tissue he is apt to lose sight of its importance as the fountain of the vis a tergo that endows other less obscure organs with all their wonderful capabilities, that so challenge the admiration and arrest the attention. Indeed, it seems to me that the agency of the nervous tissue in all of the vital processes in the animal economy, especially that portion from which originate the secretory and nutritive forces, is ignored too much by medical students and authors of the present day. A disease, whatever it may be, is "all lung," "all liver," "all kidney," or "a complication of visceral difficulties," as the case may be, according to the opinion of too great a proportion of those whose decisions illustrate the science of medicine in our country. That one or more of these important organs, in each instance, may be diseased, I do not doubt; yet behind them in the nervous tissue, by whose secretions their capabilities and powers are awakened into activity and usefulness, is the primary trouble and derange-To aim a blow at the seat of the disease, whatever it may be, forms at least a part of the most efficient therapeutical endeavor that the human mind can devise.

These considerations have led me, during the past four years, to attempt to make a more direct application of certain therapeutical agents to the primary seat of disease, viz., the nervous centres, than I find advised by the most prolific and erudite writers on the theory and practice of medicine. In this investigation my attention has been directed chiefly to the ganglionic centres of the sympathetic nervous system. The therapeutical agents that I have used in this connection the most freely and successfully are heat and cold. These two agents are of course applied externally. The idea of applying heat and cold externally upon the ganglionic regions of the sympathetic nervous system, as therapeutical agents, was suggested to my mind by witnessing operations in the office of a dentist friend, in which cold applied to the patient's jaw became an anæsthetic agent of sufficient power to enable the operator to extract teeth without pain and without injury to the patient. The fact of being able to accomplish this refutes the objection raised by some against this mode of practice, "that the centres of the sympathetic nervous system lie so deeply beneath the surface as to be entirely unaffected by the external application of heat and cold." It is highly probable that the effect of either agent, especially that of cold, when experienced even in a slight degree by the tissue of the sympathetic nervous system, modifies more or less the elaboration and transmission

of the spiritus vitalis, or its own proper secretion.*

May this not afford an explanation to the fact, that when the sympathetic ganglia in the spinal region (assuming that this portion of the sympathetic system governs the organic functions in the cutaneous system) are in a state of excitement and the individual is perspiring freely, a cold current of air coming in contact with the region of the spine at once checks the perspiration and is sometimes

followed by a chill and some local congestion?

Where diaphoresis is desired, the happy result that follows the application of the hot dressing to the site of all the sympathetic ganglia in the spinal region, is another proof of the susceptibility of the nervous centres beneath to external applications. In the cervical and in the upper portion of the dorsal region the remoteness of the nervous centres of the sympathetic and cerebro-spinal systems from the external surface cannot be urged as an objection to the probability that their tissues may be deprived, partially or completely, of the power of elaborating and transmitting their secretions of nervous force or fluid, or may be stimulated to a greater efficiency in function by the proper application of the refrigerant or hot dressing to the epidermis above them. The happy results that follow the proper application of each dressing in various diseases abundantly substantiate this point.

It has been my experience that inflammatory processes, occurring in only those organs that are supplied with sympathetic and sensitive nerves arising from nervous centres above the sixth dorsal ganglia of the sympathetic system, are immediately cut short by the treatment I advise. Inflammatory processes occurring in other organs of the body are restrained and modified by the application of the same principle of treatment, but in less degree. Inflammatory processes occurring in any tissue or organ supplied with sympathetic nerves arising from nervous centres above the third cervical ganglia of the sympathetic system, are the ones that are the most successfully treated by this mode of practice; as at this point, or at any point in the cervical region, the nervous connection between the cranial portions and the rest of the sympathetic and cerebro-spinal nervous systems may be partially or completely broken by a proper application of the refrigerant dressing.

Besides the direct stimulant and sedative effect produced by the application of the refrigerant and hot dressing over the site of certain ganglia of the sympathetic system, a similar or miniature one is probably experienced by adjacent and perhaps remote centres be-

[•] In every instance when the application of the cold and hot dressing is advised in this pare, it should be understood as applying not only to the two principal trunks of the sympathetic nerve in the spinal region, but to corresponding portions of the spine itself. This necessary in order to control the functions of the sympathetic spinal gangila scated upon the posterior or sensitive roots of the cerebro-spinal nerves.

longing to the same system, resulting from sympathetic impression or conduction of the peculiar state or condition of the centres receiving the direct impression. Thus by applying the refrigerant dressing to the superior cervical ganglia of the sympathetic system, not only is the elaboration and transmission of the spiritus vitalis retarded and perhaps abolished in their tissue, but the state or condition they experience during its effects is sympathetically assumed by adjacent and even remote ganglia belonging to the same system. This sympathy finds an analogy in certain diseases incidental to the cerebro-spinal nervous system.

Excepting in certain diseases, where the hot dressing should be applied over the site of all the ganglia of the sympathetic system, the refrigerant dressing should be applied only over those ganglionic centres that distribute sympathetic nerves to that portion or organ of the body in which the inflammatory action is occurring; while the hot dressing should be applied over the site of all those numerous centres that supply with organic vitality those portions of the body that are only sympathetically involved. Besides this effect, that of isolating partially or completely in its nervous connection that portion or tissue of the body where the disease may exist, from that portion that is only sympathetically involved, is to be desired.

The domination of one ganglion of the sympathetic nervous system over adjacent ones or over the entire system when stimulated or excited by morbid agency, is beyond question. That each ganglion possesses the capacity, during a period of health in the animal body, to secrete or originate a sufficient volume of the spiritus vitalis to carry on normally the functions of nutrition and secretion in the tissue to which it distributes nerves, with the aid afforded by corresponding sensitive nerves, is admitted by all. In fact it will be plainly seen that the integrity of the organic processes in the aggregate, or the organic health of the body, is dependent upon a complete fulfilment of the functions of each ganglion belonging to the sympathetic nervous system. This would of course include a normal distribution of the nervous force or fluid, as well as a normal elaboration.

That the nervous force may be diverted from its proper channels and become subservient to other purposes than to fulfil the functions of the ganglion that produced it, is manifest in many of the morbific processes occurring in the animal body.

This condition, or an abnormal distribution of the nervous force, underlies, in my opinion, all inflammatory processes excepting those of a specific or malignant character. It explains many of the phenomena incidental to inflammatory action that are otherwise difficult to understand. It explains the deficiency of action in the secretory glands and the impaired nutrition in all the tissues of the body, excepting the one involved, which characterizes a virulent inflammatory action. Taking this view of the subject, in symptomatic fever super-

Vol. Lxx .- No. 12*

vening after a severe gun-shot wound, we see the organic forces of the body, or the spiritus vitalis, flowing from all the rest of the ganglionic centres of the sympathetic system to the aid of the nervous centres that distribute sympathetic nerves to the tissue or organ that sustains the lesion. We have, as the result, a diminished circulation and an impaired nutrition in the rest of the body. The entire sympathetic nervous system represents a certain available force that is just sufficient to fulfil normally the organic functions of the body; and if in a certain tissue or organ the process of reparation is superadded to that of nutrition and secretion, it logically follows that in the rest of the body organic vitality must be diminished.

[To be continued.]

CASE OF TRAUMATIC TETANUS, TREATED BY DR. I. BARTLETT, OF NEW BEDFORD. APPARENT RELIEF FROM STRYCHNINE.

[Read by Dr. HERRY I. BOWDITCH at the meeting of the Suffolk District Medical Society, March_28th, 1864, and communicated by him to the Boston Medical and Surgical Journal.]

EZRA SHAW, of Carver, Mass., called on me Jan. 14th, 1864, in New Bedford, and gave the following account of himself. "Age, 48 years; height, 5 feet 8 inches; weight, 135 lbs; light hair and complexion; occupation, farmer." Three weeks previously, whilst chopping in the woods, inflicted a pretty severe cut with his axe in the instep of the left foot. One week afterwards, whilst chopping in the woods (about Jan. 1st), cut off the thumb of the left hand, just below

the second joint.

The foot soon healed, and the thumb was healing well up to the 7th or 8th of January, when he made two or three applications to it of "burnt alum, on account of proud flesh." The alum caused much irritation. On the 12th, began to experience difficulty in opening his jaws and in swallowing, and arranged to start for New Bedford. On the 13th, could only partially open his jaws; had pain in attempting to chew solid food, and considerable difficulty in swallowing. Started for New Bedford. Experienced some vexations and threatened delays on the way, which aggravated above symptoms.

When I first saw him, on the 14th, at 12 M., he could open his mouth about one third of the way, so as to protrude the tip of the tongue. He had but three teeth in the upper jaw, one incisor and one bicuspid on the right side, and one molar on the left side. He had frequent, almost constant chills, accompanied with sweating. Tongue coated; no appetite; complained of much pain through the jaws on attempting to open them or to swallow. Some pain in the back, and pain and stiffness in the legs, especially in walking. Some pain and stiffness in the muscles of the neck. Bowels constipated. Ordered hot foot-bath, to be continued for one hour; two compound cathartic pills at bed-time, to be followed by Nichols's cold infusion of senna in the morning. Flax-seed and meal poultice, well covered

with snuff upon its surface, to be kept applied to the throat and sides

of the neck. Flax-seed poultice to thumb.

15th, evening.—Was somewhat relieved after foot-bath, but passed a restless and distressed night. Cathartic operated in the morning. Had had frequent spasms of the jaws, biting his tongue—spasms of the muscles of deglutition on attempting to swallow. Pain through the jaws and throat constant and greatly aggravated by attempts to swallow. Jaws more closed and rigid. Muscles of back of neck rather stiff. Some spasmodic action of the diaphragm and muscles of abdomen during the night; chills and sweating have continued almost constantly since yesterday. Any movement of the body excited spasmodic action of diaphragm and abdominal muscles ("drawing spells," he called them). Abdominal muscles tense and rather unyielding. No appetite. The tip of tongue only could be seen. Ordered ginger tea; beef tea; milk porridge. Foot-bath and poultice to be repeated. Five drops of strychnine in water every two hours (Marshall Hall's solution—one grain to the ounce).

16th.—Symptoms much the same, but increased in severity. Legs somewhat relieved by foot-bath. Jaws more closed. Complained much of distress in the stomach, but said the medicine (strychnine) "always made it feel better." Ordered strychnine increased to eight drops every two hours. Teaspoonful tr. sumbul. every two hours in intervals of strychnine, for the distress in stomach. His general condition and symptoms grew gradually worse until the 19th. Omitted the sumbul after two doses, as "it distressed him." Had taken fifty drops of McMunn's elixir of opium on nights of 17th and 18th, but it nauseated and distressed him, as he said opiates always did. Bowels had been moved by cathartic medicine, and strychnine had been increased to ten drops every two hours, which, he said, "always made

him feel better."

On the 20th, his jaws were firmly closed, and the spasmodic action of the muscles of the throat, diaphragm and abdomen were frequent and severe. The recti muscles of the abdomen seemed as rigid and tense as a ship's hawser, and perfectly unyielding to pressure. Had some spasms in his legs; muscles of neck stiff, and neck bent a little backwards. Chills and sweating continued. Was able to swallow liquids, but with difficulty. Strychnine was now increased to fifteen drops every two hours-equal to three-eighths of a grain in twenty-four hours. Snuff poultice continued to throat, and bottles of hot water kept applied to back and legs. This treatment was continued until the 24th, during which time his symptoms became gradually ameliorated; took more nourishment, and could open his jaws a very little way; recti muscles less tense. He now showed some trembling spasmodic action in the legs and arms, which was attributed to the strychnine. He complained also that the medicine now distressed him. The strychnine was now omitted for twenty-four hours, and one grain of quinine every four hours was substituted.

He had had no chills for two or three days, and the sweating was much diminished. Snuff poultice was now omitted—the skin of the neck having become much irritated by it, and a bat of sheep's wool

substituted for it.

On the 25th, continued to improve in all respects. Quinine was continued every four hours, and fifteen drops of strychnine in the intervals of the quinine, every four hours, up to the 28th, when the quinine was omitted and the strychnine given only three times a day, fifteen drops at a time.

He could now open his mouth to nearly its full extent. The rigid tension of the recti muscles had passed off, but he had, occasionally,

the "drawing spells" during the night.

Feb. 15th.—Has been steadily recovering since last date. Can open his mouth to full extent, and seems in all respects well. He has taken no medicine for a week, nor shown any symptoms of the disease. His thumb is not quite healed as yet.

He had no knowledge of the nature of his disease until after he

became convalescent. Leaves for home this afternoon.

Marshall Hall's solution of strychnine:— R. Acet. strychnia, gr. i.; acet. acid, 5 ss.; alcohol rect., 3 ij.; aq. dist., 3 vj. M. Dose, five to twenty drops.

THE MICROSCOPIC STRUCTURE OF THE HUMAN HAIR.

M. PRUNER-BEY, of Paris, the late physician to the Viceroy of Egypt, has just published a most important memoir on human hair, in which the researches which this observer has undertaken with the microscope are detailed, and illustrated with a series of the most

valuable original drawings.

From the highest antiquity, the hair of the human species has attracted the attention of observers, but until a recent epoch, merely the color of the hair and the outward appearance have been characterized. These easily recognizable characters have been described both in individuals and in nations, and now modern science, aided by the microscope, has enlarged the sphere of our knowledge. Heusinger noticed that in the negro each hair formed an elliptical section, which fact was afterwards proved by Kölliker. Browne, in Schoolcraft's work on the American tribes, published detailed researches, in which he alleged that specific differences prevailed between the hair of the "Aryan," the negro, the Chinese, and the native American. Pruner-Bey was induced to take up the question in detail on account of the great state of confusion in which the subject appeared to him. He has carried on a microscopical examination of the hair of the different regions of the body, especially of men and the anthropoid apes. No accurate information was afforded him respecting the hair of the races of North America and Higher Asia, but he considers that his induction is sufficiently vast to generalize respecting the hair of the other races of mankind. The external character of the hair he reviews at great length, from the coarse and smooth type, almost reaching the heel, of the Blackfoot or the Sioux Indians. to the contortuplicated tufts, which scarcely touch the shoulder of the negress or the Bosjesman. The length of the hair is a variable character in the two sexes of the same origin, whilst it is so much under the influence of climate and hygiene, and varies even in individuals of the same family, that it is not of great classificatory value. The abundance of hair, also a variable character, is dependent on the general rule that the more fine and supple the hair is, the more hairs are implanted in a given space. The color of the hair, which appears, on the one hand, to bear some amount of correlation with that of the skin and of the iris, on the other hand offers more or less persistency as a race-character. Black hair is to be found in every part of the globe—equatorial, arctic, or temperate; whether in the Esquimaux, Negro, Brahminic Hindoo, Malay, or in many Europeans. The light-haired races, of whom the tint varies through the imperceptible shades of flaxen, yellow, straw-yellow, golden-yellow, red, fieryred, reddish-brown, clear brown, dark or chesnut-brown, are nearly as widely spread, and indicate, especially the clear blonde tint, the Germanic, Sclavonic and Celtic divisions of the "Aryan" race, the Finnic branch of the Turanians, in the Caucasus, Armenia, amongst the Shemites of Syria, sometimes amongst the Jews, and perhaps in Africa amongst the Berbers of the Atlas. Red hair, on the other hand, is represented amongst all the known races. The color alone of the hair M. Pruner-Bey considers to be inadequate to characterize race. The head of hair becomes smooth when the individual hairs are rectilinear, curled when they curve at their extremities, frizzled when they are composed of curves throughout their whole length, and crisp when they are disposed in more or less large rings which resemble those of wool. In the majority of the races of mankind the hair issues obliquely out of the cutaneous envelope; on the Hottentot, Papou, and many negroes, the hair is implanted perpendicularly. M. Pruner-Bey enters into length as to the differences in the hair when microscopically examined in its longitudinal direction, which, again, he considers insufficient to indicate race-characters. As regards the transverse sections, their examination forms the most striking part of our author's paper. This method permits the examination of the contour of the hair, its diameter and thickness; the ascertainment of the presence or absence of a medullary substance, and of its relations with the cortex. In the negro the hair is elliptical and exceedingly flat; the medullary substance is not always present; the centre is never empty. In the Papou the medullary substance is usually present; but the central spot which indicates it is more narrow than in the negro. This central spot is also very conspicuous in the New Zealander, Malay, some Australians, Japanese and Chinese. Pruner-Bey proceeds with the microscopical analysis of the hair in the less-known races of South America, which we pass over, as the whole subject is too complicated to be treated in brief. A similar analysis is carried on of the crinal characters of the other races of man, and of the male and female chimpanzee, male and female gorilla, oran-utan, gibbon, and baboon, the following being M. Pruner-Bey's chief conclusions:-That microscopical examination shows more diversities of aspect than are presented by the human hair to the naked eye; the more the hair is flattened the more it is curled; and the more it is rounded the more it becomes smooth and coarse. One of the extremities of the scale is represented by the Papous, the Bosjesmen, and negroes; the other by the Polynesians, Malays, Siamese, Japanese, Turanians, and Americans, without excepting the Esquimaux; the Arvans occupy the intermediate space. The Basques differ as much from the Aryan stock by their hair as by their language. Mixed breeds are recognizable by the fusion and juxtaposition of the characters inherent in the hair of their relations. The form of the hair produces more characteristic differences than the anatomical disposition of the constituent elements. Anatomically, there is only to be taken into consideration the transparent centre deprived of medullary substance in some branches of the Aryan race. But the fine points of the hairs belonging to the allophylletic races present the same peculiarity. One single hair, when it presents the average shape characteristic of the race, may distinguish it; but, without pretending to this degree of certitude, it is indubitable that the head of hair of each individual bears the mark of its origin. Although there are appreciable differences of form between various hairs in the same individual, extreme forms are only to be met with on the same head where there has been a mixture of blood. The hair, according to M. Pruner-Bey's method, appears to have an incontestable value in the study of inherent characters of the human races. Some will find transitional forms, as, for example, from the Polynesian to the Melanesian; from the Malay and the Lithuanian to the Turanian, &c.; from these and from the Basque to the American; while others will, perhaps, signalize, with as much energy and justice, diverse and constant forms, even in this insignificant appendix of the skin. M. Pruner-Bey concludes by saying that the form of the hair is as certain as that of the shape of the skull, although the importance of the two characters may be unequal.

Such startling conclusions can only be accepted on the best evidence; and we hope that our readers may examine carefully the three lithographed plates which accompany the memoir, which seem to bear out the important generalizations of the French author, and to afford a new proof of the importance of the microscopical method

of biological investigation .- The Reader, London.

Reports of Medical Societies.

EXTRACTS FROM THE RECORDS OF THE BOSTON SOCIETY FOR MEDICAL IM-PROVEMENT. BY FRANCIS MINOT, M.D., SECRETARY.

MARCH 28th .- Case of Aortic Aneurism .- Reported by Dr. Bow-DITCH. A. B., barber, colored, et. 48. Seen Feb. 26th, 1864. Had been well till rheumatic fever last June, when trouble in heart came on and cough. Both of these difficulties had continued. During the summer his wife perceived that he had some difficulty in getting up hill, and was a little unwell, although daily at his employment until about two weeks before Dr. B. saw him. At that time he became hoarse, and began to have dysphagia, with much soreness of the throat. The cough, though sounding loose, was really without sputa, till two days before Dr. B. saw him, when he raised a very little white mucus. The dyspnœa also had increased, so that he had been unable to lie down at night, but sat up, with head bent forward. No hectis. Appetite good, but unable to swallow, owing to pain and soreness of throat. Digestion good. Bowels regular. Cod-liver and fusel oil had been administered by another physician, previously in attendance. When Dr. B. first saw him he was very hoarse, and looked like a man suffering from some serious obstruction of the vocal cords; he wheezed with every breath, and on attempting to swallow he made many grimaces, and bent his neck in the peculiar way any one having a sore throat is apt to bend it, in order to ease the descent of the substances swallowed. The heart was much hypertrophied, as marked by dulness on percussion, and had a heaving impulse over a large by duniess on percussion, and had a heaving impulse over a large space. Its apex beat outside of the left nipple. A saw-mill murmur over aortic valves, and a little above them. Dr. Ellis, who saw him a few times in June, heard a strong bellows murmur at that time. Sounds in lung obscured by noise of throat, which was constant. On examining the throat, Dr. B. expected to find some redness, and probably thickening of the epiglottis; he was, on the contrary, surprised to find all the parts pale, and the epiglottis peculiarly so. The sudden nature of the severe attack, and the peculiar breathing, suggested to Dr. Ellis and to Dr. B. occlusion of the glottis. As, moreover, there was so much difficulty in swallowing and soreness complained of, Dr. B. ordered the following, to be applied thrice daily over the larynx:—Tannin, 3i.; glycerine, 3i. Also the following—glycerine, olive oil, simple syrup, equal parts, one drachm to be slowly swallowed, if grateful, as often as he wished. Fluid extract of opium, gtt. xv. p. r. n., and, if great dyspnœa, inhale ether.

On the 27th, Dr. B. found he had very severe pains in the right side of chest, with a "stuffed feeling." He was able to speak aloud immediately after the application of tannin, and the throat was less sore. Both of these results tended to support Dr. B.'s view of there being

something amenable to treatment about the larynx.

From this time till March 8th, when death took place, the symptoms were as follows:—Always dyspness and hoarseness, or peculiar obstruction of voice. There were pains above the right side of the chest. The soreness in swallowing subsided wholly. From being unable to swallow anything before the treatment, he ate plentifully with relish, and nothing but the slight twist of the neck, named above, was observ-

ed in each act of swallowing. Digestion good. The pulse was not peculiar; it was of medium size, not unusually rapid, equal in both wrists. Cough slight, peculiar, as if from obstruction, but not hoarse or crowing. His easiest posture was sitting, or walking the room. He could not lie.

He could not lie.

On March 8th, I prescribed for the dyspnæa digitalis, ½ gr., colchicum seeds and bicarbonate of soda each gr. i. three times daily.

On the 12th, just fifteen days from the commencement of treatment, he awoke at night with a sense of suffocation, and went to the window, opened it, put his head out for air, and then raised, for the first time, about half an ounce of pure blood, and the same quantity in the

room, and died almost instantly.

Dr. Bowditch had suspected an aneurism from the persistence of the dyspnœa and hoarseness, while there was absence of any apparent redness and swelling of the fauces. But the cause of the disease, rheumatism, with subsequent valvular lesion and hypertrophy of the heart, the equal pulse in the two wrists, the absence of crowing cough, the absence of any change in either lung, save a general obscurity of the murmur in both, the comparatively recent occurrence of the severe dyspnœa-all these circumstances tended to make the diagnosis obscure. It is to be regretted that the peculiar sign mentioned by Dr. Gairdner, of Edinburgh, viz., a difference in the size of the pupils, observed in some cases of aneurism of the aorta, was not looked for. If any difference existed it was not very evident. Still, the peculiar hoarseness, the pains in the chest, the stuffed feeling, the dysphagia, might have led to a more decided diagnosis, as they all point to aneurism. The physical signs about the lungs and heart, however, could not The sudden death, with hæmoptysis, have helped the diagnosis. made it almost certain that a small aneurism was the cause of the phenomena.

An autopsy was made by Drs. Bowditch and Ellis, on the following

It will be seen that the pressure on the trachea, and not on one of the divisions of it, or either lung, must necessarily have caused a general lessening of the murmur, and not any special diminution of it in one lung more than in the other, which often aids the diagnosis of aneurism. So the perfect freedom from obstruction about the vessels given off from the aneurism prevented any peculiar change of, or difference in, the pulse of the two wrists. The cartilages of the ribs were strongly ossified. The lungs looked well. They did not collapse, and were of great size; emphysema was general, but especially on the front edge of the left. They were quite cedematous, but otherwise normal. A white old patch over right ventricle of heart. Slight old adhesions about ves-The left ventricle was hypertrophied. With the exception of slight opacity, the valves were normal. The aorta was thickened, rugous and atheromatous. At the point of origin of the right brachiocephalic vessels was an abrupt dilatation, about three inches in diameter, which extended both outwards and inwards, overlapping the tra-Through the mouth, which was upwards of an inch in diameter, the opening of the vessels were seen at the fundus. Subclavian thickened. No coagula. In the trachea, about midway between the vocal cords and bifurcation, opposite the aneurism, was an ulcer about two thirds of an inch in diameter, which exposed parts of three rings,

and involved the membranous portion. Half an inch lower down in the anterior wall were two rounded projections, perhaps two lines in diameter, and from one of these the blood had evidently escaped. Coagula were found in the air-passages below. No disease of the larynx. The pneumogastric ran over the tumor, and was much flattened. The recurrent laryngeal was seen curving upwards, and must have been compressed and stretched by the aneurismal sac. Abdominal organs looked well. Stomach distended and pale.

MARCH 28th.—Diphtheria; Tracheotomy; Recovery.—Dr. Casor said he had been called in consultation by Dr. Dyra, to see a little boy three years old, who had noisy and labored respiration; drowsiness; aphonia; rapid, feeble and somewhat intermittent pulse, and was apparently suffocating, although the color was not dusky. No membrane could be seen in the fauces, though the whole mucous surface had the patchy, unequal color which Dr. Cabot had observed after the false-membrane has been thrown off, and the surface was nearly re-

stored to a healthy state, in the course of diphtheria.

The child was observed to be feverish, Feb. 2d, but was better till the 6th, when Dr. Dyer was called in, on account of the difficulty of breathing. He pronounced the disease to be diphtheria. The patient was pretty comfortable till the 11th, when much dyspnœa came on. He was better again, till the 13th, when decided symptoms of croup appeared, growing worse till 9 o'clock, P.M. He then raised a piece of false membrane, and was much relieved. The difficulty returned on the morning of the 14th, from which time the child grew worse and worse, till 1, A.M., of the 15th, when Dr. Cabot saw him. After consultation with Dr. Dyer, Dr. C. opened the trachea. A large amount of membrane was expelled, but on account of the urgency of the venous hemorrhage, most of it was lost. The breathing became immediately easy, and the child slept quietly for some hours. He afterwards raised a certain amount of well-marked false-membrane, some of which was forked and branched. The appetite was good, and he took freely of bread, butter, milk, beef, mutton, beef-tea and brandy. Chlorate of potash and mild laxative medicine were also given. The tubes were removed on the ninth day, and on Feb. 26th the patient was well.

MARCH 28th.—Cancer of the Rectum. Dr. Sinclair showed the specimen. The rectum was encircled with a ring of fungous growth, extending upwards about five inches, and terminating abruptly in a mass of cancerous nodules. A nodule of cancer was seen external to the anal orifice; and some of the glands in the immediate vicinity of the rectum were softened in the centre. The bladder contained half a pint of bloody fluid, but there was no organic disease of the cavity itself, further than some redness and ecchymosis of the mucous mem-

brane, and hypertrophy of the muscular coat.

The patient came under Dr. Sinclair's care in July, 1862, for diarrhosa, which began nearly a year previously, and continued to increase. A trace of blood was occasionally seen in the discharges, and when the latter were at any time solid they were flattened and attenuated. He had no pain in, nor tenderness of the abdomen or rectum, and the chief complaint was the frequency of stools. He was 54 years of age; spanæmic in appearance, active and intelligent. No other member of his family had ever had cancer, so far as he knew. He was treated

Vol. Lxx.-No. 12A

with various tonics and astringents without success. An examination of the rectum was suggested, but he deferred it from time to time until October, 1863, when he finally consented. The examination resulted in the discovery of extensive cancer of the rectum, consisting of nodular masses, extending from the anal orifice as far as could be reach-The disease was exceedingly tender, bleeding ed by the finger. readily. Large injections were employed for several weeks, diminishing the diarrhea more than one half, but finally they failed, on account of the growth of the disease, the pain and difficulty experienced in passing the nozzle of the syringe, and the regurgitation of the stream. In February, he had retention of urine, which had come on gradually. On account of the extraordinary sensitiveness of the urethra, it became necessary to etherize him before introducing the catheter. Sixty-four ounces of dark urine were taken from the bladder, and the operation was repeated, under like circumstances, from time to time. His urine dribbled away during the last few days of his life, causing intolerable suffering, to allay which ether was nearly constantly administered. The withdrawal of the urine by catheter did not prevent an early return of this most distressing state of things. By means of the vaginal stem of the Davidson syringe while he was etherized, Dr. Sinclair succeeded in relieving the bowel of a large quantity of fæcal matter. The urine for about 48 hours before death was bloody, and full of a shreddy or fibrous substance, which led to the belief that the disease had penetrated the bladder.

He died from exhaustion, on the 9th inst., and in accordance with a desire expressed by himself some weeks before his death, his body

was examined.

Bibliographical Notices.

Leucocythemia; an Essay, to which was awarded the Boylston Medical Prize of Harvard University for 1863. By Howard Franklin Damon, A.M., M.D., Fellow of the Mass. Med. Society; Member of the Boston Soc. for Med. Observation; one of the Physicians and Superintendent of the Boston Dispensary. Boston: 1864.

Although twenty years have elapsed since the recognition of the disease known as leucocythemia, it is as yet too little understood by the profession at large. Many of the most important facts are to be found in the work of Bennett, but the still more remarkable researches of Virchow have been hidden to many in a foreign tongue, while other contributions are scattered through various journals. Nothing, therefore, was more desirable than a compendious treatise upon the subject, which would place within the reach of all the most important points. Such a work we have before us, ornamented with photographs, which furnish the best possible introduction to the external features of the disease, and exhibit most truthfully the microscopic peculiarities of the blood. These, with the unexceptionable print and paper, show that the author has taken that just pride in his work, always necessary to secure the best results. We are therefore led to expect what we find, evidences of a thorough examination of the ideas already advanced, and a considerable contribution of original matter.

In the endless chain of phenomena which characterize this disease, it is not easy to discover its point of origin. The author has therefore wisely devoted considerable space not only to a description of the blood itself, but shows that it probably originates in certain organs such as the lymphatic, thymus and thyroid glands, the spleen and liver. The contributions of Bennett, Virchow and others, are then noticed, and the treatise terminates with the writer's own cases, which certainly present very interesting features.

We spoke of the work as accessible to all, but, unfortunately, the modesty of the writer has led him to publish only a limited number of copies, which he has generously distributed among those whom he considered most interested in the subject. Judging, however, from the cupidity excited by these copies, we shall soon see another edition of a publication creditable not only to the author, but to the city and

profession which he represents.

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

BOSTON: THURDSAY, APRIL 21, 1864.

Transactions of the American Medical Association, Volume XIV., 1863.—It was a source of great satisfaction to us a year since, that the American Medical Association once more resumed its annual sessions, after an interruption of two years. The universal, absorbing excitement of the first of these, caused by the outbreak of the rebellion, and a succession of severe battles at the West about the time when the notices for the meeting were to be issued on the second, were sufficient reasons for the postponement to that time. It was therefore specially gratifying that the next anniversary found the nation bearing up so manfully under its heavy burden that the quiet sessions of our National Association could be again resumed; that the din of arms could no longer drown entirely the milder tones of science. So large a number of the profession, however, were directly or indirectly employed in the government service, that it could not have been expected that the meeting would come up to its predecessors in point of numbers or scientific interest. Nevertheless, the volume before us is creditable evidence that the meeting did its part in keeping alive an honorable zeal for the improvement of our profession and the advance of medical knowledge throughout the land.

The delegates present numbered two hundred and sixteen, and represented seventeen States and Territories. The number of papers read was smaller than usual, but they were valuable contributions to American medical literature. The address, by the acting President, Dr. Wilson Jewell, of Philadelphia, was an able and eloquent appeal for the more thorough cultivation of sanitary science.

The report of the Committee on Medical Éducation takes an impartial view of the great imperfections and deficiencies existing to such a lamentable extent in our medical schools. It points out the sources of these, and contrasts the superficial character of too much that passes for medical training in the United States with the elaborate courses pursued in the European Colleges. It speaks in terms of praise of the high rank which the medical department of the army has always held, and of its efforts to promote the cause of science. Incidentally it pays a deserved tribute to the Surgeon-General for the wholesome reforms he has introduced, and the stimulus he has given to the whole department under him, which has led to a spirit of improvement unexcelled in its former history. With this an account is given of the great Army Medical and Surgical Museum at Washington, instituted by him; and which will remain a perpetual monument to his wise forethought, furnishing an invaluable school for the study of the effects of the surgical injuries and affections, and the various diseases incident to the war. The report concludes with four resolutions, which, after a slight amendment to the first, were adopted, as follows:—

"Resolved, That a thorough preliminary education in English, Latin, mathematics and physics, constitutes an essential pre-requisite to the admission of a student of medicine into the office of a medical preceptor, or as a matriculant of a respectable medical college.

preceptor, or as a matriculant of a respectable medical college.

"Resolved, That the advancement of medical education demands a more extended and symmetrical course of instruction in the colleges, and a more thorough and impartial examination for the degree of doctor of medicine than at present prevail.

"Resolved, That Medical Jurisprudence and Hygiene are highly important branches of medical science, deserving the careful con-

sideration of all medical teachers and schools.

"Resolved, That societies for medical improvement—State, district and county—are important auxiliaries to the advancement and promotion of science, and are therefore highly recommended by this

body, as valuable levers in the cause of medical education."

The report of the Committee on Medical Literature contains a valuable record of medical publications in the United States since the year 1860. It speaks in favorable terms of the character of the medical journals at present published in the United States. Of these the number still extant is twenty, while twenty-four have been discontinued on account of the war; one of them, however, the St. Louis Medical Journal, has recently been revived under the most promising auspices. Twenty-seven original works on subjects connected with the medical profession have been published in the United States within the same period, and fourteen new editions of works previously published. The more important minor publications number eightyfive. Of European publications eighteen have been reprinted for the first time, and twenty-one new editions have been issued. It is gratifying to see so large a preponderance of original matter in the above bibliographical record, and it certainly is very creditable to the country, when we consider the trials through which we have been passing. On running over the catalogue we find very few works which are not positively valuable contributions to medical literature, while some of them will take a high place as standard authorities on the subjects of which they treat.

The next paper is on Diatheses, their surgical relations and effects, by Prof. E. Andrews, of Lind University. This is a brief practical treatise, of special interest to all our army and hospital surgeons. Of the use of the tincture of the muriate of iron in the treatment of

ervsipelas, the author speaks as follows: "Twenty-five to forty drops of the tincture of iron should be given every hour or two, until a full and decisive effect is obtained." * * * "From the efficiency of this remedy in erysipelas, I some years ago conceived the idea of using it as a prophylactic in surgical cases. With this view I commenced to prescribe it invariably after every surgical operation, unless there was some very decisive reason to contraindicate it. This practice I have continued to the present time, with the most gratifying results. I have in this time attended a vast number of wounded and operative cases, applying the prophylactic treatment to nearly all of them. The result is, that since the adoption of this precaution I have not lost a single patient, thus treated, by erysipelas, hospital gangrene, phlebitis, or pyzmia. In fact, I have ceased to count these diseases among the risks of surgical operations, in all cases where good ventilation and prophylactic medication can be secured. My experience is not alone in this matter. Surgeon M. K. Taylor, U. S. Army, and Chief of the Military Hospitals located at Keokuk, at my suggestion, has adopted the same plan. He administers to every wounded or operative case muriated tincture of iron as a prophylactic, in doses of forty drops every three hours. His testimony is that, under this management, erysipelas and pyæmia have absolutely ceased to be a source of danger among the wounded. He reports only one death from these complications, and that was a case already far advanced before it reached the hospital."

The next paper is on the Method of treating Joint-Diseases and Deformities by continued Elastic Extension, by Henry G. Davis, M.D., of New York, and is a full and satisfactory treatise on this success-

ful method of treating these grave cases.

A case of Diarrhea Adiposa follows, by Dr. John H. Griscom, Physician of the New York Hospital, and is a most interesting account of a case of this very rare disease. This is followed by an analysis of all the reported cases of the kind, and the whole paper will be of permanent value for reference.

The report on American Necrology contains the usual tributes to deceased members of the Association, and is succeeded by the Prize Essay of Dr. Samuel R. Percy, Professor of Materia Medica and Therapeutics in the New York Medical College. The subject is the Physiological and Medicinal Properties of Veratrum Viride, and to this essay was awarded the Gold Medal of the Association for 1863.

This may be fairly called an exhaustive treatise on this very interesting drug. It comes too in very good season, at a time when the profession, both in this country and in Europe, have had their attention very generally called to it, and are very extensively employing it in the treatment of disease. We can barely glance at the leading features of the paper. The first section treats of the Natural History of the veratrum; the second, of its Chemistry and Pharmacy; the third, of its Physiological Action on Animals; the fourth, of its Therapeutic Applications; the fifth is a summary of its Physiological and Therapeutic Action on Man; and the sixth treats of its Mode of Action. After reading the numerous and carefully conducted experiments given, as well as the accounts of its therapeutic action, no man of sound mind can doubt that we have in this drug a very valuable addition to our means of cure. Its effects are most positive, and

yet manageable, and it cannot fail to hold a permanent place as a most useful instrument in the hands of the judicious physician.

The concluding paper is on Laryngoscopal Therapy, or the Medication of the Larynx under Sight, by Louis Elsberg, M.D., of New York, and strongly advocates this method of treatment in the diseases of the larynx. It is illustrated by wood cuts of the instruments he

employs.

The only thing to be regretted in the proceedings of the last session of the Association is the resolution of censure passed upon the Surgeon-General for his now somewhat famous calomel and antimony order. We think the whole proceeding was ill-advised and out of place, and not calculated to effect the desired end. Personalities should be most stringently excluded from the proceedings of the Association. From what we have heard, we believe the Surgeon-General had good reasons for issuing the order, reasons much more cogent than any amount of negative evidence which can be arrayed against it. A kindly memorial from influential members of the profession, or a committee of the Association, setting forth their grounds of dissent from his opinions and urging his withdrawal of the order, would be much more likely to effect this, than resolutions of angry denunciation. We observe there was a report of a minority of the committee which presented the resolutions adopted, but this report is not given. Various amendments and substitutes to the report and resolutions were offered by different gentlemen, but were voted down. And yet the published record says the resolutions were adopted unanimously. Is this an exact statement of the fact?

The New York Medical Independent, and Pharmaceutical Reporter.—The first number of a weekly medical Journal bearing this name has been issued in New York. It is an octavo sheet of sixteen pages, and is to be published every Wednesday. It promises to do its best for the highest interests of the medical profession; a special department is to be devoted to pharmacy. The present number contains an interesting paper on McMunn's Elixir of Opium, by Prof. Percy, of the New York Medical College. Taking as a text the recent publication in a cotemporary journal of the recipe of this hitherto secret preparation, Dr. Percy gives an interesting history of its introduction into general use, showing that it deserves no special regard by the profession over any other quack medicine. He demonstrates that its claim to be free from the injurious properties of other preparations of opium is entirely unfounded, and that it has obtained a confidence in the minds of the community solely upon the authority of the influential druggist who first introduced it; and that the whole claim of the original contriver of the elixir, was based on an entirely false view of the chemical elements claimed to be eliminated from the opium. The profession is under great obligation to Dr. Percy for his interesting and valuable exposure of this sham. It is their duty to see that it receives no more currency from any recommendation of theirs.

DEATH OF DR. CORNISH, OF NEW BEDFORD.—A correspondent in New Bedford writes:—"I have been requested to announce to you the death of one of your oldest subscribers, Dr. Aaron Cornish, of this city. At the age of twenty-five years he commenced the practice of

medicine in the village of Falmouth, where in his profession he gained the good will and kindest regards of the people. During the year 1855 he removed from Falmouth to this city, where he exhibited such skill in his profession that he soon had a large and remunerative practice. On Tuesday, the 7th day of April, he was seized with a fit of apoplexy, which caused his death on the 10th.

I send you these few lines, thinking they may be of some value to perhaps not a few of his numerous acquaintances in the practice of

medicine.

City Hospital.—The following named gentlemen have been appointed House Officers of the City Hospital of Boston, to serve until April 1st, 1865:—

Medical Department—Mr. John Dole, Mr. Clarence J. Blake. Surgical Department—Mr. M. F. Gavin, Mr. D. F. Lincoln. Ophthalmic Department—Externe, Dr. Edward G. Loring. J. N. Borland, M.D., Sec. Med. Board.

Above is the announcement of the results of the examination of the candidates for the situations of House Officers for the City Hos-

pital of Boston, which is about to be put in operation.

We are glad to see that the plau of "concours," or making the elections for these important offices depend chiefly and primarily upon the results of a rigid examination, has been adopted in our new Hospital, as it has been in most of our other large Hospitals throughout the country. We believe it to be better for the Hospital, as affording means to secure the best men for the places; and better for the applicants, as more likely to treat them all with true justice, while an office thus attained is looked upon as a valuable prize, and becomes another aid towards the elevation of the standard of medical education.

CORONER FOR MIDDLESEX COUNTY.—We are pleased to see that Dr. Francis H. Brown, of Cambridge, has been appointed coroner for Middlesex County. We trust that this is the beginning of a change which shall extend throughout the whole commonwealth, until every district shall be represented by a medical officer as active and competent as this gentleman.

Hospital Notes and Gleanings.—Bromide of Potassium in Epilepsy. '—Bromide of potassium is still a favorite remedy in epilepsy, and is much used at the Hospital for paralysis and epilepsy by Dr. Ramskill, Dr. Radcliffe, and Dr. Hughlings Jackson. The dose generally prescribed is about ten grains. This Dr. Radcliffe frequently gives at bedtime every night, but Dr. Ramskill and Dr. Hughlings Jackson generally give it three times a day. The dose may be increased to twenty, or even to thirty grains. There can be no question as to its very great value in diminishing the number of fits, and it is certainly by far the best remedy in this respect We have already reported cases in which it seemed to be of great benefit; but it is very doubtful whether it effects a cure. That it will keep the fits off for long periods, for months, or for a year, is quite certain; in many cases, however, the fits return when the drug is given up. We need scarcely

say, that besides this specific treatment of the disease, the condition of the patient generally is carefully attended to. But any one may observe that, not unfrequently, epilepsy occurs in patients who are, except during, and for a short time after, the paroxysm, in good health. Here little else than specific treatment can be adopted. Probably, in such cases, there is some organic disease of the minute tissues of the medulla oblongata, or, as it is generally, but vaguely, expressed, the excitability of the medulla oblongata is increased. It is not likely that any drug will restore the damaged structures to their natural condition any more than it would thickened and contracted aortic off for very long periods. Again, and this is the next best thing to a cure, the patient's condition between the paroxysms is much improved. The bromide, it is well known, diminishes sexual appetite, and hence has been used in cases of epilepsy associated with masturba-tion. Its chemical congener, the iodide, has this property as well, but seems to have little or no influence on epilepsy. Again, the bromide, which is so useful in epilepsy, has, Dr. Brown-Séquard says, no influence over syphilis. This shows the truth of our remarks in reference to formiate of ammonia, that from chemical relationship we cannot indicate a therapeutical one.-Med. News, from Med. Times and Gaz.

Dr. TANNER, in " a Clinical Report on Cancer of the Female Sexual Organs," says, "In 92 cases of cancer of the uterus 80 were married, 10 were widows, 1 was single but had borne a child, 1 only was really single, and in her case the deposit was secondary. Only 12 of the whole number had never been pregnant; while the rest had each averaged 6½ pregnancies, which," as the author remarks, is above the average, and "seems to show that child bearing predisposes in some measure to cancer of the uterus."-Lancet.

VITAL STATISTICS OF BOSTON. FOR THE WEEK ENDING SATURDAY, APRIL 16th, 1864. DEATHS.

Deaths during the week Ave, mortality of correspon Average corrected to incress Death of persons above 90	nding used p	weeks	for t	en :	rears,	1853-		52	Females. 47 39.1 00 0	Total. 99 75.5 82 95 0
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MARRIED,—In Roxbury, 13th inst., Dr. Samuel Gilbert Webber, of Boston, Assist. Surg. in the Navy, to Miss Nancy P. Sturtevant, of Roxbury.

DIED,—In this city, 14th inst., of paralysis, Dr. Alanson Abbe, aged 69 years. In this city, 15th inst., Dr. Selden Jennings, of Richmond, Mass.—a member of the present Legislature of this State.

Deaths in Boston for the week ending Saturday noon, April 16th, 99. Males, 52—Females, 47.—Apoplexy, 1—congestion of the brain, 2—bronchitis, 3—consumption, 15—convolusions, 1—croup, 4—cyanosis, 4—diarrheae, 2—diphtheria, 3—dropsy, 2—dropsy of the brain, 2—drowned, 1—dyspentery, 1—pilepsy, 1—cryspicias, 1—scarlet fever, 3—typhoid fever, 1—gangrene, 2—disease of the heart, 6—infantile disease, 2—intemperance, 1—congestion of the lungs, 4—infammation of the lungs, 6—marasmus, 1—meast, 2—meningitis, 1—old age, 1.—paraly-is, 2—pertionitis, 4—theumatism, 1—smallpox, 1—disease of the spine, 1—tonsillitis, 1—unknown, 14.

Under 5 years of age, 33—between 5 and 20 years, 5—between 20 and 40 years, 24—between 40 a ud 60 years, 21—above 60 years, 11. Born in the United States, 71—Ireland, 22—other places, 6.

other places, 6,